



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/780,485	02/12/2001	Junichi Koshiba	Q63128	8114

7590 03/29/2004

SUGHRUE, MION, ZINN, MACPEAK & SEAS  
2100 Pennsylvania Avenue, N.W.  
Washington, DC 20037-3202

EXAMINER

VO, HAI

ART UNIT PAPER NUMBER

1771

DATE MAILED: 03/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/780,485	<b>Applicant(s)</b> KOSHIBA ET AL.	
	<b>Examiner</b> Hai Vo	<b>Art Unit</b> 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 February 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 3-11 is/are pending in the application.  
4a) Of the above claim(s) 3-7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 8-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some    \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mouri et al (US 5,147,477) in view of Sandstrom et al (US 5,216,006). Mouri teaches a foamed rubber having a hardness of 47 (column 15, line 60), and an average cell diameter of 32 microns (table 12) within the claimed ranges. The cell is formed by azodicarbonamido, the same blowing agent used by Applicants (table 7, E-XVIII). Likewise, it is clearly apparent that the blowing agent must have a decomposition temperature required by the claims. This is in line with *In re Spada*, 15 USPQ 2d 1655 (1990) which holds that products of identical chemical composition can not have mutually exclusive properties. Mouri teaches a pneumatic tire comprising a bell 7 and a tread integrally bonded to each other (figure 1). The bell is corresponding to the claimed a rigid body. Mouri does not specifically disclose the foamed rubber composition comprising EPDM. Sandstrom discloses the tread portion of the tire comprising modified EPDM to provide the tread with improvements in ozone resistance and aged or weather resistance (example 4), which is important to the invention of Mouri, thus suggesting the modification. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the modified EPDM into the foamed rubber

Art Unit: 1771

composition motivated by the desire to the tread with improvements in ozone resistance and aged or weather resistance.

Mouri does not specifically disclose a density of the foam rubber. However, it appears that the foamed rubber of Mouri as modified by Sandstrom is made of the same composition as that of the present invention (EPDM and additives). The foamed rubber of Mouri has a smooth surface, the cell diameter, hardness, tensile strength within the claimed ranges. Additionally, the cell is formed by the same blowing agent as disclosed by the present invention. Further, the cell diameter, hardness and tensile strength altogether dictate the foamed density, it is the examiner's position that the foamed rubber of Mouri as modified by Sandstrom would inherently possess the density within the claimed range.

3. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mouri et al (US 5,147,477) in view of Sandstrom et al (US 5,216,006) as applied to claim 8, further in view of Koch (US 6,012,498). Mouri does not specifically the Young's modulus of the belt. Therefore, it is necessary and thus obvious for the skilled artisan to look to the prior art for the Young's modulus of the belt of the pneumatic tire. Koch teaches a pneumatic tire comprising a belt with a Young modulus at least 1,000,000 psi or 6895 Mpa within the claimed range to provide a no flat tire that resists punctures from sharp objects (column 2, lines 62-64, column 3, lines 3-8). This is important to the expectation of successfully practicing the invention of Mouri, thus suggesting the modification. In the absence of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention

Art Unit: 1771

was made to employ the belt having a Young's modulus within the range instantly claimed, motivated by the desire to provide a no flat tire that resists punctures from sharp objects.

4. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mouri et al (US 5,147,477) in view of Sandstrom et al (US 5,216,006) as applied to claim 8 above, further in view of Boustany et al (US 3,802,478). Mouri does not specifically disclose the composition used to form the belt. Therefore, it is necessary and thus obvious for the skilled artisan to look to the prior art for the composition of the belt. Boustany discloses a pneumatic tire comprising a belt made of a matrix of polyamide and cellulose fiber (column 3, lines 20-40). This reads on the rigid body being made of a crystalline resin and fibers. In the absence of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the belt motivated by the desire to make the tread run flatter and give better road contact and thus increasing the overall life-wearing characteristics of the tire, which is important to the invention of Mouri, thus suggesting the modification. The motivational statement is taken from the prior art US 4,196,764, column 1, lines 5-10.
5. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mouri et al (US 5,147,477) in view of Sandstrom et al (US 5,216,006) and Boustany et al (US 3,802,478) as applied to claim 10 above, further in view of JP 02-206629. Mouri does not specifically disclose the foamed rubber for tire tread comprising an acrylic acid metal salt. JP'629 discloses the rubber composition for tire tread comprising an

acrylic metal salt to give the tire having excellent dimensional accuracy and improved extrusion moldability (abstract), which is important to the invention of Mouri, thus suggesting the modification. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the acrylic metal salt in the foamed rubber motivated by the desire to give the tire having excellent dimensional accuracy and improved extrusion moldability.

### ***Response to Arguments***

6. The 102 art rejections over Mouri have been overcome by the present amendment.
7. The 103 art rejections over Mouri and Boustany with respect to claim 9 have been overcome by the present amendment. Boustany does not teach the belt having a Young's modulus of  $10^4$  to  $10^6$  MPa.
8. The art rejections over Mouri in view of Sandstrom are maintained for the following reasons. Applicant argues that the rigid body 7 of Mouri does not contact directly with the tread of the foamed rubber. Applicant provides a copy of pertinent portion of a GOMU KOGYO BINRAN reference to demonstrate that rigid body, i.e., a cord having a round cross-section, is surrounded by a belt rubber. The reference is carefully reviewed and considered. However, it is not found persuasive since such is not a typical structure of the tire as argued by Applicant. The evidence can be found in several sources in the art including US 4,040,464; US 4,469,157, and US 6,012,498 of record which teach the belt and a tread integrally bonded to each other as well. Accordingly, the art rejections are thus sustained.

Art Unit: 1771

9. The examiner suggests that incorporation of claims 9 and 10 in the independent claim would render the application allowable over the prior art.

***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai Vo whose telephone number is (571) 272-1485. The examiner can normally be reached on M,T,Th, F, 7:00-4:30 and on alternating Wednesdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax

Art Unit: 1771

phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HV



TERREL MORRIS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700